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EXAMINER

ROSS, JOHN M

ART UNIT PAPER NUMBER

2188

DATE MAILED: 12/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,036

Applicant(s)

TSUGE, MUNETOSHI

Examiner

John M Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings filed on 01 March 2002 have been approved by the Examiner.

Claim Objections

3. Claims 1-16 are objected to because of the following informalities:

The phrase "said access computer" (Claim 1, lines 7-8; claim 9, lines 8-9) is improper because a singular access computer has not been previously recited in the claims. It is suggested that this phrase be replaced by the phrase "an access computer". The claim(s) will be interpreted in light of this suggestion.

The phrase "said auxiliary storage" (Claim 1, line 11; claim 9, line 13) is ambiguous because it could refer to the auxiliary storage of either line 2 or 8. It is suggested that this phrase be replaced by the phrase "said auxiliary storage owned by another access computer". The claim(s) will be interpreted in light of this suggestion.

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The phrase "to said access computer" (Claim 1, line 16; claim 9, line 18) is improper. It is suggested that this phrase be replaced by the phrase "by said access computer". The claim(s) will be interpreted in light of this suggestion.

The phrase "selected access computers" (Claim 2, line 5; claim 10, line 7) is improper because only a singular selected access computer has been previously recited in the claims. It is suggested that this phrase be replaced by the phrase "selected access computer". The claim(s) will be interpreted in light of this suggestion.

The phrase "said proxy access computer" (Claim 6, line 5; claim 14, lines 7-8) is improper because a singular proxy access computer has not been previously recited in the claims. It is suggested that this phrase be replaced by the phrase "a proxy access computer". The claim(s) will be interpreted in light of this suggestion.

The phrase "an candidate" (Claim 6, lines 5-6; claim 14, line 8) contains improper usage of the indefinite article "an". It is suggested that this phrase be replaced by the phrase "a candidate". The claim(s) will be interpreted in light of this suggestion.

Claims 7 and 15 contain an improper use of the singular form. It is suggested that the word "exist" (Claim 7, lines 8 and 13; claim 15, lines 9 and 14) be replaced by the word "exists". The claim(s) will be interpreted in light of this suggestion.

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All dependent claims are objected to as having the same deficiencies as the claims they depend from.

Appropriate correction of the above noted deficiencies is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3 and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Fanning (US 6,366,907).

As in claims 1-3, Fanning discloses a system of computers connected over a network (Column 2, line 64 to column 3, line 2) comprising:

a plurality of access computers (i.e. provider servers) (Fig. 1, elements 12 and 16; column 3, lines 10-17); and

a storage management integrated server (i.e. search engine) (Fig. 1, element 10; column 3, lines 12-14);

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wherein the storage management integrated server has policy information that indicates a policy that an access computer accesses the storage owned by another access computer (Column 7, lines 25-44),

the access computer as an access source (i.e. recipient client) designates file information stored in the storage owned by another access computer and inquires an access computer to be accessed (i.e. provider server) of the storage management integrated server (Column 3, lines 33-64),

the storage management integrated server, based on the policy information, returns a candidate of the access computers to be accessed by the access computer as the access source (Column 6, line to column 7, line 13), and

the access computer as the access source selects an access computer to be used when making access to a file from the access computer to be accessed which has been returned as the candidate, and makes access to the access computer thus selected as an access destination (Column 2, line 64 to column 3, line 2; column 4, lines 20-36).

As in claim 2, Fanning teaches that the access computer as the access source (i.e. recipient client) reports the selected access computer to be accessed (i.e. provider) to the storage management integrated server in order to track the current number of recipient clients downloading data objects from a particular provider (Column 6, lines 48-57), where the combined search engine gateway and search engine are understood to be equivalent to the storage management integrated server of the claim (Column 7, lines 18-19).

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Further regarding claim 2, it is readily apparent in Fanning that in order to track the number of connections to a provider, this information may be reported either by the initiator (i.e. recipient client) of the transaction as above, or the responder (i.e. provider), because the initiator and the responder are the only two entities involved in the transaction and their operations are interlocked.

As in claim 3, Fanning discloses that the storage management integrated server retains location information (i.e. search engine index) of a file that is stored in the storage of computers connected to the network (Column 7, lines 25-29 and 45-60).

Method claims 9-11 are rejected using the same rationale as for the rejection of claims 1-3 above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanning (US 6,366,907) as applied to claims 1 and 9 above, and further in view of Needham (US Pub 2002/0188735).

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Fanning is relied upon for the teachings relative to claim 1 as above.

Fanning does not teach that the access computer as the access source retains location information of a file that is stored in the storage of computers connected to the network as required by claim 4.

Needham teaches a network configured for peer-to-peer file exchange where the peer computers (i.e. access computers) retain an index describing files located on other peer computers connected to the network (Fig. 1; page 2, paragraphs 14-15). Needham teaches that storing index information locally allows file searching to be performed without consuming network bandwidth (Page 1, paragraph 12).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to have a peer computer retain an index that describes files located on other peer computers as described by Needham, in the system of Fanning, in order to perform file searching without consuming network bandwidth as taught by Needham.

Method claim 12 is rejected using the same rationale as for the rejection of claim 4 above.

8. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanning (US 6,366,907) as applied to claims 1 and 9 above, and further in view of IBM

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(Logical Data Interface, IBM Technical Disclosure Bulletin, Sept. 1973, pp 1203-1207)

and Intel (P2P File-Sharing at work in the Enterprise, March 2001).

Fanning is relied upon for the teachings relative to claim 1 as above.

As in claim 5, Fanning teaches that the policy information owned by the storage management integrated server comprises type and accessibility state information for respective access computers (Column 7, lines 36-44), where the information regarding whether the server is a push-server is interpreted as type information, and the information regarding remaining available connections is interpreted as accessibility state information.

Fanning does not teach that the policy information also includes available space of the storage and selection priority as required by claim 5.

IBM teaches a storage controller that maintains tables that reflect to utilization of storage volumes that it manages (Paragraph 1, lines 1-3), where it is understood that utilization information defines both used and available space. Intel teaches a hybrid peer-to-peer storage system that establishes a priority among access destinations via the directory server (i.e. storage management integrated server) in order to select the closest client (i.e. access computer) (Page 1, sidebar, paragraph 2; Fig. 2, step 2), where it is readily apparent that policy information defining priority for selecting a computer must be present in the directory server.

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It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to include information comprising available storage space as taught by IBM, and information defining priority for selecting a computer as taught by Intel, as part of the policy information in the system of Fanning, in order to properly allocate storage in the system and to provide for the fastest transmission of data.

Method claim 13 rejected using the same rationale as for the rejection of claim 5 above.

9. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanning (US 6,366,907) as applied to claims 1 and 9 above, and further in view of Muller (Nathan J. Muller, Desktop Encyclopedia of the Internet, 1999).

Fanning is relied upon for the teachings relative to claim 1 as above.

As in claim 6, Fanning discloses that in response to an inquiry from the access computer as the access source, the storage management integrated server may return a plurality of candidates for an access destination, wherein the access computer as the access source can select among the candidates for making access to the access computer to be accessed (Column 7, lines 4-13; column 4, lines 25-28).

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Fanning does not teach that network contains proxy access computers, and that the access candidates for an access destination and the selected access computer to be accessed may be a proxy access computer as required by claim 6.

Muller teaches a proxy server (i.e. proxy access computer) that may be connected to a network and cache frequently accessed documents in order to conserve network bandwidth and reduce response times for clients (Page 355, section entitled "Proxy Server", paragraph 1).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to include the proxy servers of Muller, as computers connected to the network of Fanning, so that the proxy servers could be candidates for and selected as access destinations thereby conserving network bandwidth and reducing response times for clients as taught by Muller.

Method claim 14 is rejected using the same rationale as for the rejection of claim 6 above.

10. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanning (US 6,366,907) as applied to claims 1 and 9 above, and further in view of Yang (Beverly Yang et al, Comparing Hybrid Peer-to-Peer Systems, 2001).

Fanning is relied upon for the teachings relative to claim 1 as above.

Fanning does not teach a plurality of storage management integrated servers wherein if an inquiry by an access source to a first storage management integrated server cannot be satisfied, the inquiry is transferred to a second storage management integrated, wherein the second storage management integrated server returns a candidate for the access computer to be accessed if it is able to satisfy the inquiry, as required by claim 7.

Yang teaches a peer-to-peer computing system comprising a plurality of storage management integrated servers (Fig. 1, elements labeled "Local Server" and "Remote Server"; section 3, "General Concepts", lines 6-14) which may be configured in a chained architecture such that inquiries that cannot be satisfied by a first server (i.e. local server) are transferred to a second server (i.e. remote server), and if the remote server is able to satisfy the query it responds with results of the query (Section 3, "Chained Architecture", lines 1-14). Yang further teaches that with this architecture downloads are fast and scaleable (Section 3, "Chained Architecture", lines 15-17).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use a plurality of storage management integrated servers configured in a chained architecture as taught by Yang, in the system of Fanning, in order to yield fast and scaleable downloads as taught by Yang.

Method claim 15 is rejected using the same rationale as for the rejection of claim 7 above.

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11. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanning (US 6,366,907) as applied to claims 3 and 9 above, and further in view of Rabinovich (Michael Rabinovich et al, Not all hits are created equal: Cooperative proxy caching over a wide-area network, 1998).

Fanning is relied upon for the teachings relative to claim 3 as above.

Fanning does not teach location information of a file that includes information about a storage management integrated server to which an inquiry will be transferred, as required by claim 8.

Rabinovich teaches a web caching system where proxy caches cooperate as peers (Page 2, section 2, paragraph 2), and where a first proxy cache maintains an index of web pages in a directory that may specify a second proxy cache to which a request for the web page is forwarded if the first proxy cache cannot satisfy the request (Page 8, section 4.4, paragraph 1). Rabinovich teaches that this enables proxy caches to share objects only with other proxy caches in its vicinity, thereby reducing the overhead of object location (Page 10, section 7, paragraph 2). It is noted that a proxy cache responds to requests for objects (e.g. files) and seeks to locate them in a local storage. In this manner, the proxy cache fulfills a similar role as the storage management integrated server of the claim.

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It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to include location information of a file that comprises information about a proxy cache (i.e. storage management integrated server) to which an inquiry will be transferred as taught by Rabinovich, in the system of Fanning, in order to reduce the overhead of object location as taught by Rabinovich.

Method claim 16 is rejected using the same rationale as for the rejection of claim 8 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M Ross whose telephone number is (703) 305-0706. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JMR
JMR

Mano Padmanabhan
12/15/03
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